



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Who maintains good mental health in a locked-down country? A French nationwide online survey of 11,391 participants

Frédéric Haesebaert^{a,b,*}, Julie Haesebaert^c, Elodie Zante^d, Nicolas Franck^{d,e}

^a Centre Référent Lyonnais de Réhabilitation Psychosociale CL3R, Centre Hospitalier Le Vinatier, Lyon, France

^b INSERM U1028, CNRS UMR5292, PSYR2 Team, Lyon Neuroscience Research Center, Université Claude Bernard Lyon 1, Lyon, France

^c HESPER, Université de Lyon, Université Claude Bernard Lyon 1, EA 7425, 69008, Lyon, France

^d Centre Ressource de Réhabilitation Psychosociale et de Remédiation Cognitive (Ressource Center for Psychosocial Rehabilitation and Cognitive Remediation), Hôpital Le Vinatier, France

^e UMR, 5229, CNRS & Université Lyon 1, Université de Lyon, Lyon, France

ARTICLE INFO

Keywords:

Mental wellbeing
Epidemiology
Lockdown
Mental health

ABSTRACT

Lockdown measures can differentially affect mental wellbeing in populations depending on individual determinants. We aim to investigate the sociodemographic and environmental determinants of wellbeing on the French population during lockdown due to the SARS-CoV-2 pandemic with an online survey. Among 11,391 participants who completed the questionnaire, various factors negatively impacted wellbeing: being a female, a student, disabled, having no access to outdoor spaces, or living in a small home. Conversely, being employed and having more social contacts had a positive impact. During lockdowns, authorities should consider the vulnerability of specific populations, especially when they live in constrained housing conditions.

1. Introduction

Since the initial cases in China's Hubei province, the coronavirus pandemic (SARS-CoV-2) progressed to Europe, which became the epicenter in March 2020 (Ghebreyesus, 2020). To fight virus spread, most countries relied on "old-style" public health measures (i.e., isolation, quarantine, social distancing, and community containment) (Wilder-Smith and Freedman, 2020). In line with other countries and informed by models predicting a massive outbreak in the absence of containment measures (Adam, 2020), the French government enacted a lockdown of its entire population beginning on March 16, 2020 (Macron, 2020).

Massive social restrictions limit face-to-face interactions to those that take place within households and during the purchase of basic necessities. Thus, lockdowns have an immediate and considerable impact on daily life. In a recent review, Brooks et al. (2020) report that quarantines and large-scale lockdowns demonstrably impact mental health; specifically, studies reported diverse types of psychological disturbances or psychiatric symptoms (e.g., anxiety, depression, and post-traumatic stress disorder).

To the best of our knowledge, more general outcomes such as mental wellbeing have not yet been studied in these contexts. Mental wellbeing,

with its range of dimensions (including happiness, life satisfaction, functioning, and self-realization), is a key determinant of mental health and global health outcomes (Tennant et al., 2007). We hypothesized that social and environmental factors would determine the impact of containment on mental wellbeing. Specifically, changes in routine (e.g., going to work versus unemployment), dissimilar housing types, and variation in social support may generate stratification in mental wellbeing. Identifying risk factors may allow healthcare authorities to provide specific support to vulnerable subpopulations. In France, the containment conditions have been progressively adapted. From March 23rd, 2020, it was not possible to leave one's home for more than 1 h a day, to go shopping, to maintain physical activity in a 1 km perimeter around the home, or to take care of vulnerable people. People who did not work in activities considered essential had to stop working on site. All schools and universities were closed, and the population gradually applied physical distancing. In this very particular context, we embarked on investigating the determinants of mental wellbeing.

2. Methods

We conducted an anonymous cross-sectional online survey in France during March 25–30, 2020. The methodology and reporting of the

* Corresponding author. Centre Référent Lyonnais de Réhabilitation Psychosociale CL3R, 6 Rue Jean Sarrazin, 69008, Lyon, France.

E-mail address: frederic.haesebaert@ch-le-vinatier.fr (F. Haesebaert).

<https://doi.org/10.1016/j.healthplace.2020.102440>

Received 16 May 2020; Received in revised form 18 August 2020; Accepted 4 September 2020

Available online 15 September 2020

1353-8292/© 2020 Elsevier Ltd. All rights reserved.

results are based on the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (Eysenbach, 2004). In line with French regulations on health research, no ethics committee approval was required because data collection was anonymous.

Participants were recruited with online announcements on social networks, websites of national newspapers, and mailing lists following a convenience non-sampling method, with no incentives. The inclusion criteria for the study required participants to live in France during the lockdown, speak French, and be at least 16 years of age.

A preliminary version of the “LockUwell” questionnaire was built after gathering information on the lockdown and its psychological effects. The questionnaire was written in French and was not available in other languages. The survey included sociodemographic data (section 1), wellbeing from the start of lockdown (French version of the Warwick-Edinburgh Mental Wellbeing Scale, WEMWBS (Tennant et al., 2007; Trousselard et al., 2016)) (section 2), Visual Numerical Scales for stress (section 3), antecedents (section 4), personal situation regarding SARS-CoV-2 (i.e., whether respondents had or knew someone who had SARS-CoV-2 and personal feelings regarding SARS-CoV-2) (section 5), as well as personal and environmental conditions during lockdown (section 6). All sections were presented separately and adapted to specific circumstances. The final version was obtained through an iterative testing process that included revisions by a committee composed of researchers, research assistants, psychiatrists, mental-health services users, and citizens. Each item was revised according to the committee's recommendations. Notably, the relevance of cut-offs in item responses were reviewed (e.g., housing surface area) during committee meetings. At the end of the process the questionnaire was rated as “understandable and relevant” across all sections. The estimated duration of the questionnaire was 15–30 min (details are available from an English translation of the questions in the supplementary material section).

We chose the WEMWBS score as the primary outcome measure of wellbeing in the questionnaire. The WEMWBS scale is an auto questionnaire including 14 items each rated on a 5-point Likert scale with total scores ranging from 14 to 70. The scale does not have specific cut-off scores to define poor or good mental wellbeing, but scores are compared against population norms to determine if they fall above or below the population norm. The WEMWBS encompass affective aspects of wellbeing as well as aspects of functioning and self-realization. The scale is suitable to measure wellbeing in healthy populations as well as in patients with psychiatric disabilities.

Statistical analyses were performed using SAS software, version 9.4 (SAS Institute Inc., Cary, NC, USA). The analysis included data from respondents aged ≥ 16 years living in France. We weighted data using age and gender distributions from the 2020 French census. In this first brief report, we analyzed sociodemographic data, wellbeing from the start of lockdown (WEMWBS scores), and personal and environmental conditions during lockdown (sections 1, 2, and 6, respectively). We described weighted-mean WEMWBS total scores and determinants. Independent variables in the multivariate model were all determinants significantly associated with the total score in the bivariate analysis. Multicollinearity was screened using the Variance Inflation Factor (VIF) and the COLLIN option in SAS. No collinearity was found.

3. Results

3.1. Descriptive analysis

Of the 20,235 initial participants, 11,742 (58.3%) completed the questionnaire. After excluding respondents with unusable answers and from other countries than France, we ended with 11,391 questionnaires (56.6%) for analysis. After weighting, 47.5% of participants were men, 52.1% were women, and 0.5% were other (Table 1). Mean weighted age was 47.47 ± 17.28 years and mean WEMWBS score was 50.51 ± 8.17 (Table 1).

3.2. Personal and environmental situation during lockdown

Among the participants, 62.34% had housing with an outdoor space (mean surface area = 75.4 ± 37.2 m²). Those living alone comprised 27.73% of participants, while 72.10% lived with at least one other individual. Finally, 15.41% left their homes for work and 33.97% tele-commuted. Table 2 summarizes all lockdown situations and corresponding WEMWBS total scores.

3.3. Factors associated with mental wellbeing

Multivariate analyses indicated that being male, having a partner, and being more educated predicted greater wellbeing (Table 3). Conversely, having a child under 10 was associated with poorer wellbeing. Age was positively correlated with wellbeing. Students and people with disabilities that prevented them from working exhibited the lowest wellbeing scores, whereas retired individuals and healthcare providers had the highest scores. House surface area was positively correlated with wellbeing; in particular, people with access to an outdoor space had higher wellbeing scores. Wellbeing was also greater among participants who could go to work, had social support, or engaged in higher frequency of social contact via telephone or texting (excluding social media).

4. Discussion

We report the results of the first nationwide survey on mental wellbeing in a Western European country, at the early stage of global lockdown during the SARS-CoV-2 pandemic. We identified concerning inequities in citizen wellbeing. Notably, students, people with disabilities, and people confined in small spaces with no outdoor access all exhibited lower WEMWBS scores. In contrast, we found greater wellbeing among retired individuals, healthcare professionals, people who could still go to a workplace (instead of telecommuting), and those with more social contacts and larger housing surface areas.

These results are partially in line with other studies on wellbeing during normal (non-pandemic) situations (Eysenbach, 2004; Trousselard et al., 2016), most notably for people with disabilities. However, student WEMWBS scores are far lower than previous research indicates (e.g., 51.88 in a French student sample (Trousselard et al., 2016) versus 46.48 in our study). In a former study, both individual and institutional (i.e., linked to universities) elements could influence student mental health (Byrd and McKinney, 2012). In the current context, the French student population is faced with cumulative effects from the lockdown: social rupture, closure of universities, and uncertainty about their academic performance (Ministry of Higher Education, Research and Innovation, 2020). Additionally, lockdown could have impacted the sense of freedom in young populations who face numerous challenges during this particular period of their social development. As freedom is known to be a critical component of happiness (Layard, 2005), we hypothesized that there would be an impact on wellbeing. A global lockdown has a considerable impact on self-determination and unpredictability for student futures, warranting clear strategies and public messages of hope directed at these populations.

Our results are also consistent with previous works regarding the underlying link between housing and mental wellbeing (Bond et al., 2012). However, to our knowledge, the impact of housing in a lockdown context, where time spent at home is dramatically increased, had not yet been studied. According to our results, special consideration should be paid to individuals who live in tiny apartments without an outdoor space, especially in urban areas where higher population density makes social distancing difficult, meaning that these inhabitants have few alternatives for maintaining physical activity. Finally, our results suggest that, as lockdowns severely restrict access to all socializing venues including workplaces, authorities should recommend maintaining social contact via phone and texting.

Table 1

Sociodemographic data of survey participants and their WEMWBS total scores (unweighted N = 11391, weighted N = 11393).

Characteristics	No. (%) of respondents		WEMWBS total score (weighted) ^a
	Unweighted	Weighted	Mean (S.D.)
Age, year			
16-29	3404 (29.88)	2421 (21.26)	47.80 (7.23)
30-49	5316 (46.67)	3488 (30.61)	49.49 (6.35)
50-64	2043 (17.94)	2651 (23.27)	51.75 (9.05)
65-74	547 (4.80)	2469 (21.67)	52.61 (16.15)
≥75	81 (0.7)	364 (3.20)	55.04 (13.34)
Sex			
Male	2557 (22.45)	5415 (47.5)	50.74 (11.85)
Female	8782 (77.10)	5932 (52.06)	50.37 (6.70)
Other	52 (0.46)	52 (0.46)	42.69 (9.32)
Marital status			
Single, divorced, or widowed	4033 (35.41)	4215 (37)	49.45 (9.05)
With a partner	7358 (64.59)	7178 (63)	51.14 (7.59)
Children less than 10 years old			
No	9061 (79.55)	9870 (86.62)	49.61 (6.21)
Yes	2330 (20.45)	1521 (13.38)	50.64 (8.58)
Employment status			
Employed	5406 (47.46)	4440 (38.97)	50.08 (7.17)
Independent	746 (6.55)	721 (6.33)	51.20 (8.08)
Unemployed	538 (4.72)	455 (3.99)	47.31 (8.03)
Student	1243 (10.91)	874 (7.68)	46.48 (7.39)
Other with no activity	322 (2.83)	243 (2.13)	47.02 (9.27)
Unable to work due to disability	160 (1.40)	149 (1.31)	44.47 (9.41)
Retired	721 (6.33)	2606 (22.87)	52.77 (14.10)
Health professional	2255 (19.80)	1907 (16.73)	51.67 (6.76)
Educational level (ISCED 2011)^b			
≤3	727 (6.38)	1074 (9.42)	50.00 (9.03)
4	1326 (11.64)	1485 (13.03)	49.64 (11.62)
5-6	3985 (34.98)	3727 (32.71)	50.27 (7.81)
≥6	5353 (46.99)	5108 (44.83)	51.02 (7.60)
Psychiatric history			
Ongoing	1244 (10.92)	1031 (9.05)	45.02 (8.56)
Past	1632 (14.33)	1622 (14.24)	48.40 (8.52)
No psychiatric history	8515 (74.75)	8740 (76.71)	51.55 (7.69)

^a Data were weighted using age and gender distributions from the 2020 French census

^b ISCED (International Standard Classification of Education) is the reference international classification for organizing education programs and related qualifications by levels and fields. An ISCED ≤3 level corresponds to secondary education and below. ISCED 4 corresponds to the “baccalaureate” a French diploma that allows access to higher education. An ISCED of 6 and above corresponds to a “bachelor” level degree and above.

Table 2

Situation during lockdown (unweighted N = 11391, weighted N = 11393).

	No. (%) of respondents		WEMWBS total score (weighted) ^a
	Unweighted	Weighted	Mean (S.D.)
Outdoor space			
Yes	6911 (60.67)	7103 (62.34)	51.20 (7.93)
No	4480 (39.33)	4291 (37.66)	49.36 (8.42)
House surface area (m²)^b			
5–17 m ²	74 (0.66)	60 (0.54)	44.45 (8.36)
18–29 m ²	307 (2.74)	288 (2.57)	46.39 (9.20)
30–89 m ²	5504 (5504)	5039 (44.94)	49.45 (8.00)
90–119 m ²	2498 (2498)	2659 (23.71)	51.16 (8.18)
≥120 m ²	2841 (2841)	3166 (28.24)	52.06 (7.90)
Housing location			
Urban	6303 (55.33)	6375 (55.95)	50.30 (8.25)
Suburban	2419 (21.24)	2409 (55.95)	50.72 (8.26)
Rural	2669 (23.43)	2610 (55.95)	50.83 (7.90)
No. of people in household			
1	2528 (22.20)	3159 (27.73)	50.15 (9.64)
≥2 (but <10)	8845 (77.66)	8214 (72.10)	50.66 (7.67)
Children less than 10 years old living with individual			
No	9146 (80.29)	9951 (87.35)	50.65 (8.58)
Yes	2245 (19.71)	1441 (12.65)	49.54 (6.20)
Working during lockdown			
At workplace	2266 (19.89)	1755 (15.41)	50.97 (6.40)
Telecommuting	4708 (41.33)	3871 (33.97)	50.09 (7.32)
No work	4417 (41.33)	5768 (50.62)	50.66 (9.70)
Type of social support			
Family	8221 (72.17)	7199 (63.19)	50.78 (7.19)
Friends, neighbors, colleagues	7682 (67.44)	6693 (58.74)	51.04 (7.08)
Health or other professionals	1062 (9.32)	987 (8.67)	50.29 (8.38)
Social contact			
Face to face			
< 1/week	8891 (78.05)	8459 (74.24)	51.95 (8.78)
1/week	661 (5.80)	827 (7.26)	52.76 (8.36)
> 1/week	754 (6.62)	937 (8.23)	50.58 (9.15)
Every day	1085 (9.53)	1171 (10.28)	50.05 (7.94)
Phone			
< 1/week	854 (7.50)	898 (7.88)	51.88 (7.83)
1/week	2042 (17.93)	2059 (18.07)	50.62 (7.72)
> 1/week	4846 (42.54)	4924 (43.22)	49.25 (8.45)
Every day	3649 (32.03)	3513 (30.83)	47.42 (9.95)
Texting			
< 1/week	928 (8.15)	1212 (10.64)	51.22 (7.35)
1/week	994 (8.73)	1172 (10.28)	50.72 (8.16)
> 1/week	4274 (37.52)	4576 (40.17)	48.89 (9.13)
Every day	5195 (45.61)	4434 (38.91)	48.68 (10.54)
Social networks			
< 1/week			50.67 (7.47)

(continued on next page)

Table 2 (continued)

	No. (%) of respondents		WEMWBS total score (weighted) ^a
	Unweighted	Weighted	Mean (S.D.)
	2003 (17.58)	2848 (25.00)	
1/week	770 (6.76)	855 (7.50)	50.42 (7.96)
> 1/week	3178 (27.90)	3114 (27.33)	49.89 (9.00)
Every day	5440 (47.76)	4576 (40.16)	50.54 (9.82)

^aData were weighted using age and gender distributions from the 2020 French census.

^b N = 11215, outliers excluded.

5. Limitations

This study has some limitations. First, respondents may not be representative of the whole French population due to the sampling method. Weighting of major sociodemographic characteristics reduce this selection bias. However, when compared to the general population we acknowledge some differences such as higher employment rate in our sample (62% versus 40% in a recent French general census) (National Institute of Statistics and Economic Studies, 2019). Further, even if there is a lack of data on level of education in the general population, an overrepresentation of higher education levels cannot be excluded in our sample (44% of the corrected sample has an ISCED \geq 6 education level). Second, numerous variables may influence mental wellbeing and we are aware that this brief report only included a few of them (e.g., income level could have impacted wellbeing, more detail on clinical data of participants with a psychiatric condition could have been instructive). Moreover, the self-reported nature of all the outcomes included in the questionnaire calls for a cautious interpretation of the results. Further studies will examine the impact of the global lockdown in France and worldwide with greater granularity; however, currently there is an urgent need to inform authorities on early determinants affecting mental wellbeing.

6. Conclusions

In this French nationwide survey during the second week of global lockdown responding to the SARS-CoV-2 pandemic, we show that mental wellbeing is poorer for people with pre-existing vulnerabilities, those who live in environmental conditions that exacerbate social-distancing-related stress (i.e., in a confined space), and individuals who are disproportionately affected by uncertainties stemming from the shuttering of institutions (e.g., students). Increased vigilance is warranted in these subpopulations. Policymakers should keep these data in mind when making decisions related to lockdown and post-lockdown strategies.

Funding

The authors received no specific funding for this work.

Declaration of competing interest

FH has received personal fees and/or non-financial support outside of the submitted work from Janssen, Lundbeck and Otsuka. JH has received personal fees and/or non-financial support outside of the submitted work from Janssen.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.healthplace.2020.102440>.

Table 3

Weighted multiple regression for total WEMWBS scores.

			95% CI	
Determinant	Estimated β	p-value	Lower limit	Upper limit
Sex				
Other	-3.85	<.001	-5.94	-1.76
Female	-0.95	<.001	-1.24	-0.67
Male	reference	.		
Age, year				
16-29	-6.46	<.001	-7.50	-5.43
30-49	-5.05	<.001	-6.06	-4.05
50-64	-2.91	<.001	-3.87	-1.96
65-74	-2.21	<.001	-3.04	-1.38
≥ 75	reference	.		
Marital status				
Single, divorced, or widowed	-0.51	0.007	-0.89	-0.14
In a relationship	reference	.		
Children less than 10 years old living with individual				
Yes	-0.81	0.013	-1.29	-0.31
No	reference	.		
Employment status				
Independent	0.56	0.062	-0.03	1.15
Health professional	0.62	0.008	-3.37	-0.81
Student	-1.74	<.001	0.16	1.08
Unable to work due to disability	-2.09	0.001	-1.64	-0.11
Unemployed	-0.88	0.028	0.06	1.35
Retired	0.71	0.0312	-2.19	-0.18
Other with no activity	-1.18	0.021	-2.37	-1.11
Employed	reference	.		
Educational level (ISCED, 2011)				
≥ 6	0.67	0.039	0.21	1.12
5-6	0.01	0.982	-0.45	0.46
4	reference			
≤ 3	-0.82	0.007	-1.41	-0.23
Psychiatric history				
Ongoing	-4.85	<.001	-5.35	-4.34
Past	-2.67	<.001	-3.07	-2.27
No psychiatric history	reference	.		
Outdoor space				
No	-0.57	0.020	-0.93	-0.21
Yes	reference	.		
House surface area				
5–17 m ²	-3.03	0.002	-4.95	-1.12
18–29 m ²	-1.23	0.013	-2.21	-0.26
30–89 m ²	-0.40	0.047	-0.79	0.00
90–119 m ²	reference			
≥ 120 m ²	0.76	<.001	0.37	1.15
Housing location				
Suburban	-0.44	0.023	-0.83	-0.06
Rural	-0.40	0.048	-0.80	0.00
Urban	reference	.		
Working during lockdown				
No work	-0.94	<.001	-1.42	-0.46
Telecommuting	-0.28	0.241	-0.75	0.19
At workplace	reference	.		
No. of people in household				
1	-0.31	0.149	-0.73	0.11
≥ 2 (but <10)	reference	.		
Type of social support				
Family				
No	-0.18	0.436	-0.62	0.27
Yes	reference	.		
Friends, neighbors, colleagues				
No	-1.37	<.001	-1.81	-0.94
Yes	reference	.		
Social contact				
Face to face				
Every day	0.67	0.005	0.20	1.14
> 1/week	1.59	<.001	1.07	2.10
1/week	-0.36	0.187	-0.90	0.18

(continued on next page)

Table 3 (continued)

Determinant	Estimated β	p-value	95% CI	
			Lower limit	Upper limit
< 1/week	reference	.		
Phone				
Every day	1.64	<.001	1.01	2.27
> 1/week	0.73	0.015	0.14	1.31
1/week	0.31	0.319	-0.30	0.93
< 1/week	reference	.		
Texting				
Every day	1.19	<.001	0.64	1.74
> 1/week	1.10	<.001	0.58	1.62
1/week	0.06	0.842	-0.57	0.69
< 1/week	reference	.		
Social networks				
Every day	1.33	<.001	0.95	1.72
> 1/week	0.79	<.001	0.40	1.19
1/week	0.70	0.019	0.11	1.29
< 1/week	reference	.		

References

- Adam, D., 2020. Special report: the simulations driving the world's response to COVID-19. *Nature* 580 (783), 316–318. <https://doi.org/10.1038/d41586-020-01003-6>.
- Bond, L., Kearns, A., Mason, P., Tannahill, C., Egan, M., Whitely, E., 2012. Exploring the relationships between housing, neighbourhoods and mental wellbeing for residents of deprived areas. *BMC Publ. Health* 12, 48. <https://doi.org/10.1186/1471-2458-12-48>.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G.J., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet* 395 (10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8).
- Byrd, D.R., McKinney, K.J., 2012. Individual, interpersonal, and institutional level factors associated with the mental health of college students. *J. Am. Coll. Health* 60 (3), 185–193. <https://doi.org/10.1080/07448481.2011.584334>.
- Eysenbach, G., 2004. Improving the quality of web surveys: the checklist for reporting results of Internet E-surveys (CHERRIES). *J. Med. Internet Res.* 6 (3), e34. <https://doi.org/10.2196/jmir.6.3.e34>.
- Ghebreyesus, T.A., . WHO Director-General's opening remarks at the media briefing on COVID-19 - 13 March 2020. Available at: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-mission-briefing-on-covid-19-13-march-2020> (Accessed April 10, 2020).
- Layard, R., 2005. *Happiness. Lessons from a New Science*. Penguin, London.
- Macron, E., 2020. Adresse Aux Français, 16 Mars 2020. Available at: <https://www.elysee.fr/emmanuel-macron/2020/03/16/adresse-aux-francais-covid19>. (Accessed 5 April 2020).
- Ministry of Higher Education, Research and Innovation, 2020. COVID-19: mesures prises par le gouvernement pour les établissements d'enseignement supérieur et de recherche. Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation. Available at: <https://www.enseignementsup-recherche.gouv.fr/cid150297/covid-19-mesures-prises-par-le-gouvernement-pour-les-etablissements-d-enseignement-superieur-et-de-recherche.html> (Accessed April 8, 2020).
- National Institute of Statistics and Economic Studies, 2019. Tableau de l'économie française. Available at: <https://www.insee.fr/fr/statistiques/3676623?sommaire=3696937>. (Accessed 11 August 2020). Accessed.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., Stewart-Brown, S., 2007. The warwick-edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health Qual. Life Outcome* 5, 63. <https://doi.org/10.1186/1477-7525-5-63>.
- Trousselard, M., Steiler, D., Dutheil, F., Claverie, D., Canini, F., Fenouillet, F., Naughton, G., Stewart-Brown, S., Franck, N., 2016. Validation of the warwick-edinburgh mental well-being scale (WEMWBS) in French psychiatric and general populations. *Psychiatr. Res.* 245, 282–290. <https://doi.org/10.1016/j.psychres.2016.08.050>.
- Wilder-Smith, A., Freedman, D.O., 2020. Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *J. Trav. Med.* 27 (2), taa020 <https://doi.org/10.1093/jtm/taaa020>.